



## Testimony

Before the Subcommittee on Readiness, Committee on  
Armed Services, U.S. Senate

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# DEFENSE DEPOT MAINTENANCE

## Uncertainties and Challenges DOD Faces in Restructuring Its Depot Maintenance Program

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Mr. Chairman and Members of the Subcommittee:

We are pleased to be here today to discuss the Department of Defense's (DOD) (1) plans for eliminating costly depot maintenance excess capacity, (2) progress in finalizing a new depot workload allocation policy, (3) current approach for allocating maintenance workloads for new and existing systems, and (4) estimates that billions can be saved by outsourcing depot maintenance. Before getting into the details of our statement we would like to provide a brief summary of the major points covered in our testimony.

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## Results in Brief

It is important to note that the waste and inefficiency in DOD's logistics system, including the management of its \$13 billion depot maintenance program, is one of the key reasons we identified DOD's infrastructure activities as 1 of 24 high-risk areas within the federal government.<sup>1</sup> There is excess capacity in the industrial repair and overhaul facilities of the public and private sectors, which contributes significantly to their inefficiency. Consequently, how maintenance workloads are ultimately allocated to the two systems is a topic of great interest to the Congress, DOD, and the affected public and private sector activities.

Costly excess capacity totaling about 50 percent remains in the DOD depot system, which actually comprises four systems.<sup>2</sup> As the services seek to privatize a greater share of their depot maintenance, the cost of maintaining excess capacity will increase unless additional capacity reductions are made. The Navy has made the greatest progress in dealing with this through consolidation and expedited closures of facilities affected by the base closure and realignment (BRAC) process. The Army, and even more so the Air Force have been less successful. However, all three military departments to some extent are implementing actions that will privatize-in-place costly excess capacity. Our work shows the following:

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<sup>1</sup>Defense Infrastructure (GAO/HR-97-7, Feb. 1997). In 1990, GAO began a special effort to review and report on the federal program areas its work identified as high risk because of vulnerabilities to waste, fraud, abuse, and mismanagement.

<sup>2</sup>DOD Directive 5100.1, "Functions of the Department of Defense and Its Major Components," assigns the Army, Navy, Air Force, and Marine Corps, under their respective Secretaries, the responsibility for "providing logistics support for service forces, including procurement, distribution, supply, equipment and maintenance, unless otherwise directed by the Secretary of Defense." To meet the responsibility to maintain its equipment, each service operates a depot maintenance system, with the Navy system including three different types, and the Marine Corps having its own system.

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- Privatization-in-place at the Sacramento and San Antonio Air Force depots will privatize rather than eliminate excess capacity and could be about \$182 million per year more expensive than redistributing that workload to other underutilized Air Force depots. We estimate the annual savings from transferring the work would offset the one-time transfer costs in about 2 years.
  - The cost of operating the recently privatized-in-place Aerospace Guidance and Metrology Center in Newark, Ohio, now called the Boeing Guidance Repair Center (BGRC), will likely cost \$13 million to \$23 million more annually to operate than before privatization—an 18- to 31-percent increase.
  - As a result of the Navy's decisions to privatize-in-place, the Naval Surface Warfare Center workloads at Louisville, Kentucky, operational costs will be about \$59 million more annually than redistributing the workloads to other underutilized Navy industrial facilities. We estimate the annual savings from transferring the work would offset the one-time transfer costs in about 4 years.

Moving next to DOD's plans for outsourcing depot maintenance, our work shows the plans and policies are still evolving. Last year, the Congress received and ultimately rejected DOD's proposed policy regarding depot-level maintenance and repair. Provisions in the policy were predicated on relief from the existing statutes that influence depot workload allocations between the public and private sectors. These provisions include 10 U.S.C. 2464, which prohibits the use of more than 40 percent of the funds made available in a given year for depot-level maintenance for private sector performance and 10 U.S.C. 2469, which provides that DOD-performed depot maintenance and repair workloads valued at not less than \$3 million cannot be changed to performance by contractors without the use of competitive procedures among public and private sector entities. Some changes have been made based on congressional concerns about certain aspects of the policy report, but DOD has not finalized its new policy to address all of these concerns. For example, DOD has reinstituted its public-private competition program and states that it intends to use competitive procedures before outsourcing depot maintenance workloads valued at \$3 million or more. However, core capability<sup>3</sup> requirements have not yet been quantified. Moreover, no time frame has been established for finalizing key draft depot maintenance policy letters issued in December 1996 and January 1997.

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<sup>3</sup>Core depot maintenance capabilities are to be established to meet essential wartime demands, promote competition, and sustain institutional expertise. These capability requirements shape the minimum amount of organic depot facilities, equipment, and personnel needed to maintain a ready and controlled source of technical competence.

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Even though a new depot maintenance policy has not been finalized, operational decisions soon have to be made regarding whether new and existing systems will be maintained in the public or private sectors. Our ongoing work shows that for both existing and new systems, assessments are being made to determine what portion of the current workload could be outsourced with acceptable risk. The absence of clear policy on how to proceed in this area has caused some delays in choosing the maintenance sources and raised some concerns about whether the most cost-effective strategies are being selected. For example:

- Air Force workload and personnel moves associated with the Sacramento and San Antonio depots are undecided. If there is no relief from the legislative requirement to have 60 percent of the depot maintenance work done in the public sector, the Air Force will not be able to privatize-in-place all of the depot maintenance workload in these facilities, which were recommended for closure during the 1995 BRAC process. The Air Force believes it can privatize all the Sacramento workloads and the San Antonio C5 cargo aircraft workload, but not all of San Antonio's engine workload, unless it makes other adjustments to its current depot maintenance workload mix.
- Program officials for the C-17, F-22, and F/A-18 E/F aircraft told us that they are delaying final support decisions partially because of the uncertain status of internal DOD core policies and the potential for obtaining relief from legislation regarding the workload mix between the public and private sectors.

The last area we will comment on relates to our views on the accuracy of savings estimates tied to the outsourcing of depot maintenance. DOD is facing large shortfalls in its modernization accounts and plans to reduce costs and generate savings for modernization through the outsourcing of support activities, such as depot maintenance. DOD's projected savings are based on estimates cited by the Commission on Roles and Missions (CORM) and the Defense Science Board (DSB). The CORM and DSB maintain that through competition in the private sector, depot maintenance costs can be reduced by 20 to 40 percent. We believe that in some cases outsourcing can reduce maintenance costs, but not to the extent being estimated by the CORM and DSB. Our past and present work in this area has demonstrated that:

- The assumptions were based on projected savings for competitions involving base operations support activities such as stocking shelves, operating motor pools, and cutting grass—activities which require low

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skill levels and little capital investment and involve simple tasks that should be readily characterized in a statement of work where performance is easily measurable. Further, large capital investments and highly skilled personnel are required to do depot maintenance work and cost control performance monitoring is complex—characteristics that generally increase the risk of contracting out.

- Savings projections were rarely validated and when they were audited generally were less than projected.
- The commercial activities on which competition savings were projected, were conducted in a highly competitive environment, while 91 percent of the nonship depot maintenance contracts awarded in fiscal years 1996 and early 1997 were awarded noncompetitively.

In conclusion, the inefficient operation of depot maintenance activities results in a reduction of the military services' purchasing power through their operations and maintenance. Stated another way, more operations and maintenance funds will be required to perform the same level of maintenance. This situation makes deciding the future of the DOD depot maintenance system more difficult. Depot maintenance privatization should be approached carefully, allowing for evaluation of economic, readiness, and statutory requirements that surround individual workloads. If not effectively managed, privatizing depot maintenance activities, including the downsizing of the remaining DOD depot infrastructure, could exacerbate existing capacity problems and the inefficiencies inherent in underutilization of depot maintenance capacity. DOD needs to provide the Congress with a plan that clearly defines how it will deal with this set of complex issues.

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## Background

Depot maintenance is a key part of the total DOD logistics system that supports millions of equipment items, over 52,000 combat vehicles, 351 ships, and over 17,000 aircraft. Depot maintenance is a vast undertaking that requires extensive shop facilities, specialized equipment, and highly skilled technical and engineering personnel to perform major overhauls of weapon systems and equipment, to completely rebuild parts and end items, to modify systems and equipment by applying new or improved components, to manufacture parts unavailable from the private sector, and to program the software that is an integral part of today's complex weapon systems. This work is done in both military depots and the private sector. DOD facilities and equipment are valued at over \$50 billion. A large but unknown amount of government-owned depot plant equipment is used by private contractors—many of them original equipment manufacturers of

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weapons or major systems and components. Appendix I contains the history of the DOD depot maintenance system. Appendix II provides summary information on our recent prior reports regarding DOD's depot maintenance program.

DOD spends about \$13 billion—5 percent of its \$250 billion fiscal year 1997 budget—on depot maintenance activities. Over \$1 billion of this amount is procurement funding (rather than operation and maintenance funding) for contractor logistics support, interim contractor support, and some software maintenance.

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## Workload and Personnel Reduced Since the Cold War Ended

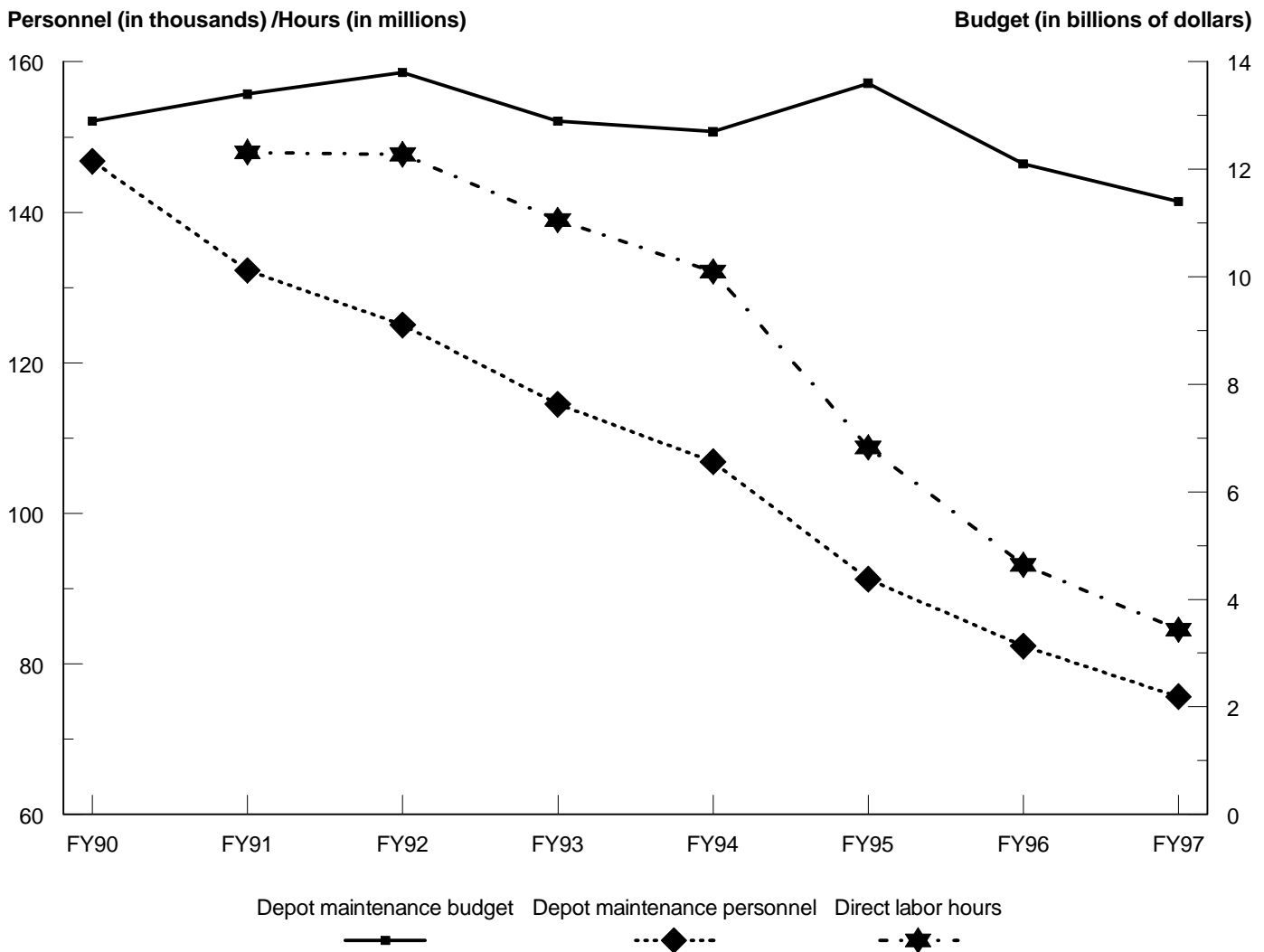
With the end of the Cold War and reduction in new defense procurement, commercial contractors would like more of the depot maintenance business. Other factors contribute toward a declining workload base, which must be shared among all potential sources of repair—both public and private. These factors include: (1) a reduction in the number of systems and equipment that need to be repaired and overhauled; (2) efforts by some components to do more repairs in field-level maintenance activities; and (3) the increased reliability, maintainability, and durability of some systems and equipment. Further, the already controversial debate is heating up over how various depot maintenance workloads should be allocated among the military depots, original equipment manufacturers seeking life-cycle management support to increase their shrinking workload base, and third-party repair vendors who would also like a larger share of this multibillion dollar business. In combination with these factors, the debate has been fanned by the implementation of base realignment and closure recommendations, proposals to privatize work in place, and by news of the success achieved by many private sector commercial activities in reducing their operations and support costs through outsourcing noncore activities.<sup>4</sup>

DOD's depot system employs about 76,000 DOD civilian personnel, including laborers, highly trained technicians, engineers and top-level managers. As shown on figure 1, the number of depot maintenance personnel has been reduced by about 71,000 personnel—a 48-percent reduction since 1990. Over the same period of time, the organic depot maintenance workload had a similar decline of about 43 percent, while the total depot maintenance budget declined by a margin of only 12 percent. Appendix III shows the reduction of DOD personnel by service.

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<sup>4</sup>DOD defines outsourcing as the transfer of a function previously performed in-house to an outside provider. Privatization is a subset of outsourcing which involves the transfer or sale of government assets to the private sector.

**Figure 1: Reductions in DOD's Depot Maintenance Budget, Depot Maintenance Personnel, and Direct Labor Hours**



### Excess Capacity Exists in the Public and Private Sectors

While DOD has substantially reduced depot maintenance requirements, and the number of depot maintenance personnel has been similarly reduced, DOD has not completed complementary reductions in its depot maintenance infrastructure—despite four rounds of base closures. As a result, DOD has extensive excess capacity in the form of large numbers of

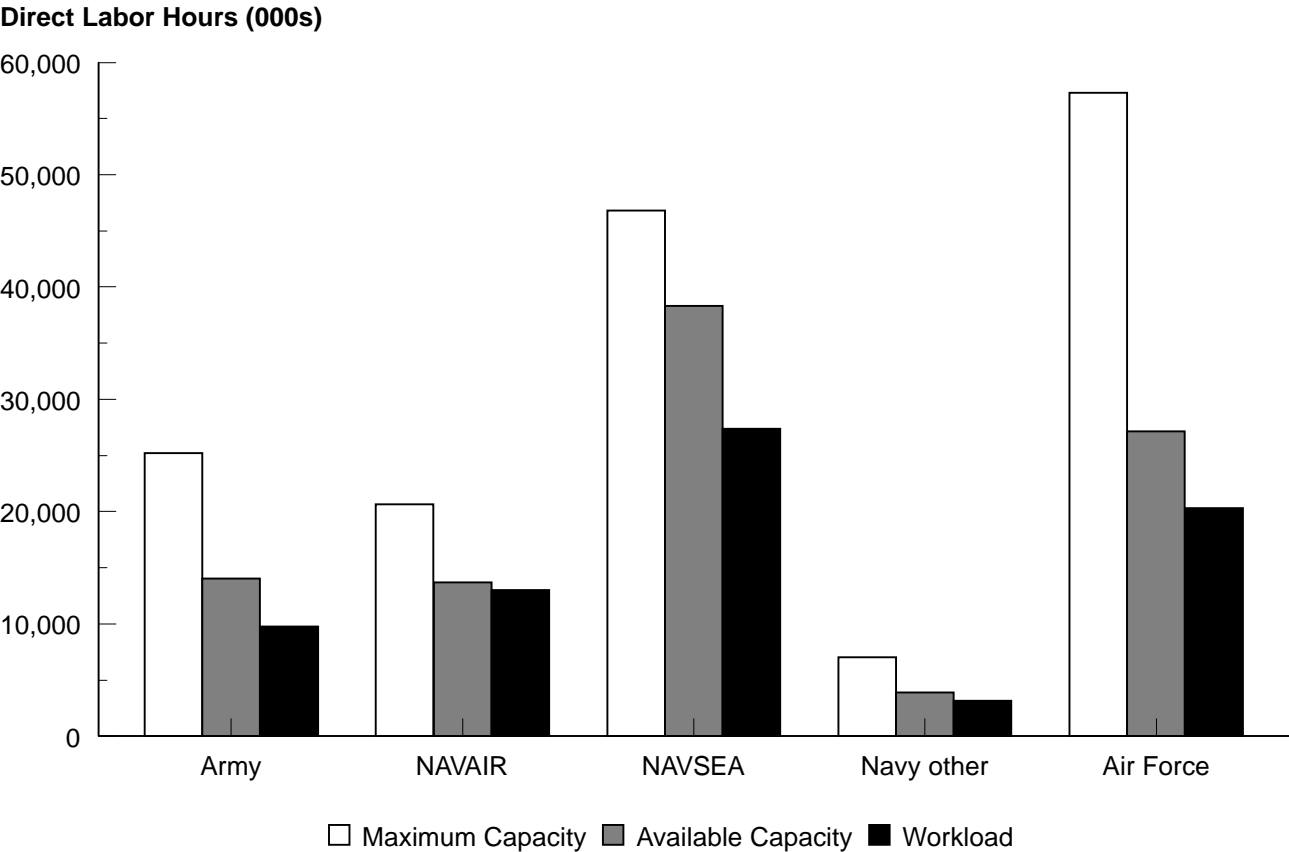


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under utilized buildings and equipment. Additionally, the private sector has seen its production workload for new systems and equipment decline and has significant excess production capacity.

We refer to excess capacity that is derived by determining what is the potential for doing more work after the programmed workload is accomplished, assuming that the production capability will be used to the maximum extent, which would require the availability of additional trained personnel. This same measure was used in the BRAC process to identify the potential for consolidating like workloads to improve capacity utilization and reduce redundancies. However, DOD normally measures excess capacity by an analysis that constrains facility and equipment availability by the availability of trained personnel and the organization of work stations, assuming an 8-hour workday, for 5 days a week. A maximum potential capacity utilization between 75 and 85 percent is generally considered an efficient operating level. Using maximum potential capacity measurements, DOD is predicted to have excess capacity in fiscal year 1999 of about 50 percent. Figure 2 shows excess capacity using both the maximum potential capacity and constrained measurements. The Air Force has the most extensive excess capacity. Appendix IV shows excess capacity in each of the DOD depots using both the maximum potential capacity and constrained measurements.

Figure 2: Comparison of Depot Capacity and Workload



Navy Has Been More Successful Than the Other Services in Reducing Costly Excess Capacity

Even after four BRAC rounds, the four services have costly excess capacity within their depot maintenance systems. With the exception of the Navy privatization-in-place efforts, our work shows that the Navy has been the most successful at addressing this issue. However, the Army and the Air Force have not succeeded in making significant reductions in their excess capacity. Further, DOD’s privatization of depots and the Air Force’s plans to implement BRAC decisions have contributed to the excess capacity problem and ultimately will drive up depot maintenance costs. Such cost increases mean that military service customers can buy less depot maintenance with available operation and maintenance dollars.

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Navy Is Saving by  
Expeditiously Closing  
Aviation Depots and  
Shipyards but Is Missing  
Savings Opportunities by  
Privatizing the Louisville  
Depot

The Navy has closed three of its six aviation depots, consolidating workloads from the closing depots to improve capacity utilization and reduce excess capacity. These actions will significantly increase utilization and reduce excess capacity in the remaining three naval aviation depots. The 1993 BRAC Commission approved the Navy's recommendation to close aviation depots located in Pensacola, Florida; Alameda, California; and Norfolk, Virginia. The Navy completed the closures in about 3 years versus the 6-year period allowed under the BRAC legislation. And through a combination of workload consolidations, interservicing actions, and outsourcing noncore workloads, the Navy reduced its projected operating rate by about \$10 per hour. Based on a forecast of 13 million direct labor hours for fiscal year 1999, this is expected to produce a savings of about \$130 million.

Capacity Reduction and  
Expedited Closures

Our work shows that based on maximum potential capacity and fiscal year 1999 workload forecasts, the three remaining naval aviation depots will have an average excess capacity of 37 percent, substantially lower than the other services. Because the Navy reallocated workloads and specialties among its aviation depots, and reengineered work spaces in the process, Navy officials state that given the availability of depot maintenance personnel, capacity utilization will be about 95 percent. This represents an increase of 36 percent after the workload transition is completed.

The Navy has also expeditiously closed four of its eight naval shipyards. The 1991 BRAC Commission recommended closure of the Philadelphia Naval Shipyard, and repair work was terminated in 1995. The 1993 BRAC Commission recommended closure of the Charleston and Mare Island Naval Shipyards, and repair work was terminated in 1995. The 1995 BRAC Commission recommended closure of the Long Beach Naval Shipyard, and repair work was terminated in 1996. As a result, from September 30, 1991, through September 30, 1996, the Navy shipyard production had decreased in direct labor hours by 50 percent, while employees were reduced by about 63 percent. Table 1 shows other measures of the shipyard downsizing over this period.

**Table 1: Comparison of Public Shipyards for Fiscal Years 1991 and 1996**

Dollars in millions

Fiscal year	Number of shipyards	Number of employees	Number of drydocks	Feet of piers	Fixed assets less depreciation
1991	8	61,647	35	67,358	\$1,630.7
1996	4	23,110	16	21,075	821.6
Reduction	4	38,537	19	46,283	809.1
<b>Percent of reduction</b>	<b>50</b>	<b>63</b>	<b>54</b>	<b>69</b>	<b>50</b>

### The Navy's Privatization-in-Place of Louisville Depot Is Not Cost-Effective

The Navy's privatization of its Louisville depot was not the most cost-effective choice; the Navy could have saved more through consolidation of workloads and improved use of capacity in remaining industrial activities.<sup>5</sup> The Louisville, Kentucky, Detachment of the Naval Surface Warfare Center, Crane Division, a depot recommended for closure by the 1995 BRAC Commission, supported the overhaul and remanufacture for naval surface ship gun and missile systems. In analyzing the cost of privatizing the Louisville workload in place versus transferring it to another depot, the Navy estimated that the contract alternative would cost more on an annual recurring basis and the one-time cost of transferring the workload to another depot would be prohibitive. However, we found the Navy's analyses understated the annual savings of transferring the workloads to other underused facilities and overstated the one-time transfer costs.

Our analysis shows a one-time cost of \$243 million and an annual savings of \$59 million by transferring the workload. The annual savings would offset the one-time cost in about 4 years. The Navy's annual savings estimate recognized that transferring the workloads to underused facilities would reduce the overhead cost for those production units being considered for transfer. However, the per-unit savings were applied only to the workloads transferred and not to existing workloads at receiving locations.

### Privatization Plans Without Further Downsizing Will Increase Excess Capacity at Army Depots

As a result of BRAC decisions during the 1988, 1991, and 1993 BRAC rounds, the Army terminated work at three of its eight maintenance depots—Lexington-Blue Grass, Kentucky; Sacramento, California; and Tooele, Utah. The Secretary's recommendations to the 1995 BRAC Commission proposed realignment and termination of work at two

<sup>5</sup>Navy Depot Maintenance: Cost and Savings Issues Related to Privatizing-in-Place at the Louisville, Kentucky, Depot (GAO/NSIAD-96-202, Sept. 18, 1996).

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additional depots—Letterkenny in Pennsylvania and Red River in Texas, but the Commission recommended that parts of each depot remain open. Plans for implementing the 1995 BRAC recommendations are still evolving.

Nonetheless, based on the actions taken thus far, the Army is not effectively downsizing its depot maintenance infrastructure to reduce costly excess capacity. We reported in September 1996<sup>6</sup> that tentative plans for allocating some workloads from realigned depots to remaining depots will likely achieve some reduction in excess capacity and savings at two remaining depots. However, tentative plans to privatize workloads in place or retain workloads in facilities that were to be downsized or closed will increase excess capacity in the Army depots, from 42 to 46 percent over the next 3 years.

This increase is caused by several factors including: (1) a forecasted decrease in future year depot-level workload; (2) the Army's tentative decision to establish a government-owned, contractor-operated facility at Letterkenny for maintenance of the Paladin combat vehicle and tactical missile; and (3) the Defense Depot Maintenance Council's decision supporting the Air Force plan to delay the transfer of the ground communications-electronics workload from the Sacramento depot to the Tobyhanna depot. We recommended that DOD reassess this delay, which is costing the Army about \$24 million annually.

On March 13, 1997, the Council approved the Air Force's proposal for a 3-year workload transfer beginning in 1998 with the transfer of 20 percent of the workload in the first year, and 40 percent in each of the next 2 years with full operational capability at the Tobyhanna Depot in 2001. This transfer schedule will increase the total cost of the transfer and delay potential consolidation savings. Additionally, the BRAC recommendation to downsize rather than close Red River depot, although based on readiness concerns, adds to the excess capacity in the Army system.

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### Excess Capacity Will Remain at Air Force Depots After Privatization

The Air Force has the most serious excess capacity problem. Although three of the six depots in the Air Force depot system were recommended for closure, the Air Force opted to privatize the workloads in place at all three. Despite major force structure reductions and significant excess capacity in the Air Force depot maintenance system, none of the Air Force's five large, multicommodity logistics centers or their maintenance

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<sup>6</sup>Army Depot Maintenance: Privatization Without Further Downsizing Increases Costly Excess Capacity ([GAO/NSIAD-96-201](#), Sept. 18, 1996).

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depots were recommended for closure during the first three BRAC rounds. These five depots have about 57 million direct labor hours of capacity to accomplish about 32 million direct labor hours of work, leaving about 26 million hours of excess capacity—or about 45 percent. Additionally, the Air Force military depots' workloads are projected to decline to about 20 million direct labor hours of work in 1999. At this workload level, the Air Force depots would have about 65 percent unused capacity. Although depots at the Sacramento and San Antonio centers were identified for closure during the 1995 BRAC process, the executive branch, citing readiness, up-front costs, and potential effects on the local community, indicated that these workloads should be privatized-in-place or in the local communities.

In December 1996, we reported that if the remaining depots do not receive additional workloads they are likely to continue to operate with significant excess capacity and to become more inefficient and expensive as workloads continue to dwindle due to downsizing and privatization initiatives.<sup>7</sup> Our analysis indicates that redistributing 8.2 million direct labor hours of work from the closing Air Force depots to the three remaining depots would (1) reduce the projected excess capacity in 1999 from about 65 percent to about 27 percent, (2) lower the hourly rates by an average of \$6 at receiving locations by spreading fixed cost over a larger workload, and (3) save as much as \$182 million annually as a result of economies of scale and other efficiencies. This estimate was based on a workload redistribution plan that would relocate only 78 percent of the available hours to Air Force depots. Table 2 provides an overview of the savings achievable through consolidation and increased use of capacity in the remaining three Air Force depots.

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<sup>7</sup>Air Force Depot Maintenance: Privatization-in-Place Plans Are Costly While Excess Capacity Exists (GAO/NSIAD-97-13, Dec. 31, 1996).

**Table 2: Potential Savings From Air Force Depot Consolidation**

Depot location	Direct labor hours	Labor/overhead rates	Cost	Total cost
<b>Before consolidation</b>				
Oklahoma City	7,122,421	\$59.11	\$421,006,305	
Ogden	4,939,623	\$65.47	\$323,397,118	
Warner Robins	6,763,218	\$59.55	\$402,749,632	
Sacramento	3,222,409	\$63.81	\$205,621,918	
San Antonio	5,000,190	\$58.24	\$291,211,066	
				<b>\$1,643,986,039</b>
<b>After consolidation</b>				
Oklahoma City	12,214,902	\$50.22	\$613,432,378	
Ogden	6,626,348	\$59.68	\$395,460,449	
Warner Robins	8,206,611	\$55.17	\$452,758,729	
				<b>\$1,461,651,556</b>
<b>Total potential savings</b>				<b>\$182, 334, 483</b>

According to management officials at the three remaining centers, it would cost about \$475 million to absorb all of the Sacramento and San Antonio workload. Using our estimate of \$182 million in projected annual consolidation savings, net savings would occur within 2.6 years of the consolidation.<sup>8</sup>

## Air Force Efforts to Privatize San Antonio and Sacramento Depots

The Air Force is currently conducting a public-private competition for the Sacramento and San Antonio depot workloads and plans to award contracts for three work packages and complete the transition by 2001. Initially, the Air Force pursued a prototype approach to privatization with three Sacramento workloads, hydraulics, electric accessories, and software, and two San Antonio workloads, C-5 aircraft paint/depaint and fuel accessories. However, shortly after the Defense Depot Maintenance Council approved the prototypes on February 1, 1996, DOD began to question this approach because of industry and community group desires to have larger segments of work competed.

Consequently, on August 16, 1996, the Air Force Materiel Command announced it had revised its plans and created larger packages of work for

<sup>8</sup>In addition, the Army estimates that the BRAC Commission mandated transfer of about 1.2 million hours of ground communications workload from the Sacramento depot to the Tobyhanna Army Depot will save an additional \$24 million annually.

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competition. The Command's planners project that with the current 60-40 limitation, about \$600 million of the two centers' \$1.6 billion workload will be available to transfer to the private sector. Within this constraint, the Command believes it can privatize all of the Sacramento workload as a single package and San Antonio's C-5 workload as a separate package. The Air Force's current approach is to hold a public-private competition for the C-5 package first and then compete the Sacramento workload, excluding the BRAC-directed transfer of ground communication-electronics workload to Tobyhanna Army Depot. The San Antonio Air Logistics Center anticipates a later public-private competition for \$240 million of the \$700 million San Antonio engine workload. The Command is studying other San Antonio workloads for public-private competitions, if the 60-40 limitation is raised or eliminated. If there is no relief from 60-40 legislation, the Air Force in 1998 must begin moving large workloads and workers to other DOD depots. By 2001, this move would involve 5.6 million labor hours and more than 4,000 people making it comparable to one Air Force depot.

Title 10 U.S.C. 2469 requires a public-private competition when outsourcing depot-level workloads valued at over \$3 million. In structuring the competition, the Air Force responded to industry concerns that previous public-private competitions had favored the public depots. We have previously reported that private sector firms won about 57 percent of the public-private competitions between 1985 and 1993. These awards amount to about 44 percent of the total competitive award dollars in the competitions.<sup>9</sup>

In the interest of addressing concerns from both industry and public competitors, the Air Force held joint industry-depot conferences to solicit and discuss competition issues. The Air Force considered these issues and structured its competition procedures and evaluation criteria to reflect these concerns. For example, the Air Force's C-5 request for proposal requires the public offeror to depreciate any newly acquired capital assets over the life of the contract. Private sector offerors, on the other hand, are allowed to choose the method of depreciation they will use. Also, the Air Force has precluded the public competitors from partnering with the private sector. The solicitation provides for the selection of the public or private sector entity that offers the lowest total evaluated cost. This is to be calculated based upon a cost realism assessment of each proposal, various cost adjustments to attempt to equalize the private and public

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<sup>9</sup>Depot Maintenance: Issues in Allocating Workload Between the Public and Private Sectors (GAO/T-NSIAD-94-161, Apr. 12, 1994).



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sector proposals, and a quantified analysis of the dollar value of the technical merits of the respective proposals.

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### Previous Air Force Privatization-in-Place Initiative Resulted in Increased Costs

We estimate that the cost of performing aviation and missile guidance repair at BGRC, Newark, Ohio, is from \$13.3 million to \$23.3 million higher than what the organic depot would have cost to perform the same work. This represents an increase of between 18 to 31 percent.

Prior to its closure, the Aerospace Guidance and Metrology Center, located on Newark Air Force Base, Ohio, primarily supported three key workloads—repair and overhaul of missile and aircraft guidance systems and management of the Air Force’s metrology and calibration program. Recommended for closure by the 1993 BRAC Commission, the Air Force decided to privatize the workload in place. In December 1995, the Air Force awarded a contract for the repair and overhaul work to Rockwell International Corporation, Autonetics Electronic Systems Division, Anaheim, California, which was subsequently purchased by The Boeing Company in August 1996. The facility and workload were in transition between January and August 1996. A local reuse authority assumed control of the Newark facility when it closed, and has been in negotiation with the contractor over the terms of a lease agreement.

After the transition period and 3 months of contractor performance during fiscal year 1997, the system program managers at the Ogden and Oklahoma City Air Logistics Centers noted that program funds were being expended faster than anticipated and the most significant contributing factor appeared to be the excessive amount of material ordered. Ogden and Oklahoma City system managers were investigating this condition at the same time we initiated a follow-up to determine the cost impact of the Newark privatization. After reviewing the Ogden and Oklahoma City information, we requested that the centers prepare an estimate of organic versus contractor costs for the fiscal year 1997 workload.

### Contract Cost Analysis Shows Increased Costs

On March 16, 1997, the Air Force Materiel Command released the completed cost analysis of the items managed by Ogden and repaired at BGRC. The analysis estimated that privatizing-in-place will result in a \$3.4 million to \$13.2 million higher total cost to the government in fiscal year 1997, an increase of from 8.5 to 33 percent over the organic depot alternative. The report estimates that the most probable increase will be close to \$6.7 million—a 17 percent higher cost. We reviewed the Air Force analysis and found that this figure does not reflect increased material

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usage by the contractor. The contractor has ordered significantly higher quantities of material than were used by the organic depot for comparable workloads. While the contractor's material usage report does not clearly indicate whether actual consumption has increased along with increased material orders, we observed that the increased material orders are consistent with increased usage of government-furnished material experienced with other contracts of a similar type.<sup>10</sup> Further, a lack of accountability over government-furnished material has hindered attempts to reconcile actual material consumption, and is a condition we identified in our review of other depot maintenance contracts. Given the evidence of increased material orders, we believe the \$6.7 million Air Force Materiel Command estimate is more likely to represent the low end of the cost range.

The Oklahoma City Air Logistics Center analysis is not yet completed. We collected cost data from Oklahoma Air Logistics Center and Headquarters Air Force Materiel Command to compute an estimate of fiscal year 1997 organic and contract costs to repair the aircraft guidance workload currently on contract at BGRC. Based on that data, we estimate that the cost for repairing Oklahoma City managed aircraft guidance items will likely be between \$6.5 million to \$10 million more for fiscal year 1997 than the organic depot alternative. This represents an increase of from 19 to 29 percent more than the organic alternative. Similarly to the Ogden analysis, our low range does not include increased contractor usage of material. There are similar indications of increased government-furnished material orders.

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## Depot Privatization Policy Still Evolving

Workload allocation between the public and private sector has a long history of congressional interest and is affected by various statutes. With the downsizing of the military and associated reductions in the depot maintenance workload, DOD, the Congress, and the defense industry have a heightened interest in the issue. In fiscal year 1996, the Congress directed DOD to develop policies with a goal of eliminating legislation related to depot maintenance workload allocations. While DOD developed policy proposals, the Congress did not agree with them, and no legislative changes were made. Key concerns raised by congressional committees involved the need to allow public depots to compete for noncore workloads and the imprecise definition of core workloads. Consequently, DOD's policy is still evolving.

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<sup>10</sup>The Air Force is using a cost-plus-award-fee contract for the Newark workload. The contractor's fee is primarily based on his performance in reducing the cost of labor.

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## Current Statutes and Directives

Statutes and regulations influence the mix of maintenance work done by the public and private sectors. As early as 1974, legislation prescribed a specific dollar-value mix for the public and private sectors' alteration, overhaul, and repair work for naval vessels. Since then, workload allocation decisions have been influenced by percentage goals found in DOD policy and legislation. In recent years DOD has sought relief from these statutes. The following are key documents and statutes:

DOD Directive 4151.18, "Maintenance of Military Materiel," (Aug. 12, 1992) establishes policy and assigns responsibility for DOD maintenance at all levels. It establishes a source-of-repair process, requires the maintenance of core capabilities within military depots to meet contingency requirements, and provides for competition between public and private sources to achieve economies and efficiencies.

Section 2464 of title 10 requires that a "core" logistics capability be identified by the Secretary of Defense and maintained by DOD unless the Secretary waives DOD performance as not required for national defense. Core is defined as the capability, including personnel, equipment, and facilities, to ensure timely response to a mobilization, national contingency, or other emergency requirement. The composition and size of this core capability are at the heart of the depot maintenance public-private mix debate.

Section 2466 of title 10 prohibits the use of more than 40 percent of the funds made available in a fiscal year for depot-level maintenance or repair for private sector performance and is often referred to as the 60-40 rule.

Section 2469 of title 10 provides that DOD-performed depot maintenance and repair workloads valued at not less than \$3 million cannot be changed to performance by another DOD activity without the use of merit-based selection procedures for competitions among all DOD depots and that such workloads cannot be changed to contractor performance without the use of competitive procedures for competitions among public and private sector entities.

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## Congressional Requirements for Clear Policy and DOD's Response

The Congress has over the years consistently supported the need for public depots and the retention of core capability requirements as essential to national security. Section 311 of the National Defense Authorization Act for Fiscal Year 1996 reiterated that support and required DOD to articulate known and anticipated core requirements, to organize its resources to meet those requirements economically and efficiently, and to determine what work should be done in the private sector and how it should be managed. Section 311 directed the Secretary of Defense to develop a comprehensive depot maintenance policy that, among other

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things, should (1) provide for core capabilities properly sized to meet security requirements and assign sufficient workloads for cost efficiency and technical proficiency, (2) provide for public-private competitions for noncore workloads, (3) address technical data issues, and (4) provide for the organic performance of maintenance and repair for any new weapon systems defined as core.

DOD Policy Proposal States a Preference for Private Sector Depot Maintenance

DOD submitted its report Policy Regarding Performance of Depot-Level Maintenance and Repair to the Congress in April 1996. The report discussed DOD's revised methodology for determining core capability requirements and the workloads necessary to sustain them. The new methodology included an assessment of private sector capability to determine whether mission-essential workloads could be outsourced at acceptable risk and a best-value assessment (generally through competition within the private sector) of noncore workloads. The report also stated DOD's intent to size the organic sector to minimum core requirements plus additional workloads for which the public depots were the last source of repair and where private industry costs were clearly prohibitive. The report limited public-private competitions to noncore workloads where there was inadequate competition in the private sector.

The report also affirmed DOD's plans to support new or developing weapon systems in the private sector based on its revised acquisition policy (DOD Directive 5000.2-R, para. 3.3.7).<sup>11</sup> The directive requires that support concepts for new and modified systems maximize the use of long-term total life-cycle contractor logistics support that combines depot-level maintenance with wholesale and selected retail materiel management functions.

Congressional Committees Disagreed With the Proposal

We evaluated DOD's policy report and its report Depot Maintenance and Repair Workload, as required by section 311 of the National Defense Authorization Act for Fiscal Year 1996, and had concerns in several areas. The policy report provided a framework that was vague in several areas—including core determinations and support for new systems—and was inconsistent with congressional direction calling for public-private competition for noncore workloads. The stated policies provided wide latitude regarding implementation, which made it difficult to assess its impact and expected results. Also the data in the workload report was not

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<sup>11</sup>This directive "Mandatory Procedures for Major Defense Acquisition Programs (MDAP) and Major Automated Information System Acquisition Programs" (MAISAP), March 15, 1996, established the management framework for acquiring DOD systems and equipment, including their life-cycle management.

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comprehensive and projections of future workloads were not consistent or comparable with the reported historical figures.

Congressional committees also criticized DOD's policy report and revised acquisition guidance. The House National Security Committee found the policy report to be "seriously deficient and nonresponsive in a number of areas," particularly in providing for core capabilities, identifying specific weapon systems and equipment supporting national military strategy, sufficiently workloading public depots, providing for public-private competitions, addressing technical data issues, and providing for organic support of new weapon systems defined as core. The Committee also found that the companion workload report did not provide all the mandated data and appeared to skew comparisons of past and future workload allocations by its treatment of costs for contractor logistics support and interim contractor support.

The Senate Armed Services Committee had many of the same concerns and found the policy report "not well thought out in general and not responsive to Congressional guidance on several important issues, such as the requirement to provide for full and open competition for all non-core workloads". This Committee also found DOD's revised source of support policy as inconsistent with current law and congressional direction in section 311 and possibly inconsistent with national security interests.

#### Depot Workload Allocation Policies Still Evolving

For several years, the Congress has asked DOD to better define core capability requirements and specifically identify the workloads and weapon systems that must be maintained in DOD depots to satisfy core requirements. Establishing and justifying firm core requirements is a fundamental prerequisite for determining minimum depot workloads and supporting outsourcing decisions. DOD's response to the Congress in its policy report again failed to meet congressional expectations. DOD has yet to firmly define and establish minimum core capability requirements. However, some policy changes have been made in response to concerns about the policy proposal.

#### Some Changes Have Been Made

Since the issuance of the policy and workload reports, an interservice team has further refined and improved the core methodology to permit best-value comparisons of both public and private sources in determining allocation of noncore workloads. In response to our recommendation, DOD also developed a standard set of evaluative factors that the services are to consider in their private sector risk assessments. However, each service

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can add individual factors, establish factor weights, and develop the specific evaluative process for its risk assessments.

In reviewing the quantification of core requirements in the services, we noted that each service applies the methodology differently based on its operating requirements and support concepts. For example, the Air Force views core as a capability to manage and oversee a particular commodity class or type of repair rather than a specific weapon system or component. The Air Force risk assessment assigns a low weight to the risk from sole-source contracts and allows an item to be outsourced to a sole-source provider, given an acceptable total risk score. The Navy, on the other hand, relates core capabilities to specific peacetime workloads on mission-essential systems and plans to maintain some organic workload for each weapon system as tasked by the Joint Chiefs of Staff scenario. According to a Navy official, completely supporting a tasked workload on a sole-source contract is considered an unacceptable risk to the Navy.

DOD revised Directive 5000.2-R to better reflect core considerations and to eliminate the need for a waiver to justify selection of an organic source of support. However, some program offices tell us they believe that outsourcing depot maintenance for new systems is still the preferred option. They noted that informal guidance from senior Air Force acquisition leadership emphasizes that life-cycle management by the original equipment manufacturer be used.

#### Key Policy Proposals Are Still in Draft

Additionally, although two draft depot maintenance policy letters were distributed in December 1996 and January 1997, it is uncertain when, or if, these policy statements will be issued. The first memorandum, from the Office of the Deputy Under Secretary of Defense Logistics, discussed DOD's current positions on principal policy issues. Among other things, it (1) stated DOD's commitment to maintain a robust organic depot maintenance capability sized to support core requirements; (2) directed the services to submit public-private workload allocations through fiscal year 2002, but not to include interim contractor support and contractor logistics support costs in estimating compliance with the 60-40 statute; (3) established service goals to achieve a minimum of 75-percent capacity use in each remaining depot upon completion of BRAC actions; (4) identified downsizing through divestiture, mothballing, and demolition as the preferred approach to increasing capacity use; (5) directed improvements in cost accounting and internal controls; (6) revised public-private competition policy to provide for competitions involving repair workloads valued at more than \$3 million; and (7) provided for

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maximum use of total contractor logistics support arrangements for new and modified systems that are determined to be noncore.

The second memorandum, from the Deputy Under Secretary of Defense (Industrial Affairs and Installations), provided the draft guidance on depot maintenance public-private competitions in the following key areas:

- **Workload determination.** Only noncore-related depot-level maintenance and repair workload will be available for competition. However, workload previously defined as core may be determined to be noncore as a result of the redetermination process. Eligible new workloads will be evaluated to determine if viable potential public and private sector sources exist, and a formal public-private competition will be conducted for any package valued at \$3 million or more.
- **Competition formulation.** For each work package under consideration, the applicable DOD component will determine which government candidate would compete, and the Defense Depot Maintenance Council will make the final determination regarding which depot can compete.
- **Proposal evaluation and source selection.** Best-value principles will be used when evaluating proposals and selecting a source of repair. Appeals by military depots will be resolved internally within the DOD rather than by GAO. DOD's "Cost Comparability Handbook" will be modified to adjust military depot offers by federal income taxes, cost of facilities capital, and liability insurance.
- **Cost estimation and accounting.** The Defense Contract Audit Agency will (1) review each public depot maintenance activity to determine if it has well-documented procedures for handling direct and indirect costs, (2) audit the cost-estimating systems of the public depot offerors, (3) ensure that each military department's depot cost-estimating and accounting systems are in compliance in a timely manner, and (4) assess the accuracy and completeness of incurred costs on depot awards. The guidance provides for no comparable scrutiny for a private sector offeror.

Both the private sector and some depot supporters in the Congress have raised concerns regarding aspects of these documents. It is uncertain whether these letters will ultimately become DOD policy. Since there is no approved DOD competition guidance, the Air Force is conducting the competitions at Sacramento and San Antonio using its own guidance.

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## Current Actions Point to Greater Use of the Private Sector to Perform Depot Maintenance

In response to our reports, DOD has consistently stated that it intends to comply with existing statutes relating to depot maintenance workload allocations. As we look at the services' current actions related to (1) privatization-in-place, (2) assessments of existing organic workloads, and (3) assessments of where to perform new weapon system depot maintenance, we see significant movement of depot maintenance workload to the private sector. While we are continuing work in this area, we are concerned that, due to a lack of clear policy and direction, some maintenance strategies are being delayed and others are being selected that may not be the most cost-effective.

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### Privatization-in-Place

As previously discussed, privatizing organic workloads at closing depots rather than transferring and consolidating work at remaining depots further exacerbates DOD's excess depot capacity problem and increases depot maintenance costs.

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### Assessments of Organic Workloads

DOD officials are examining workloads now at organic depots with a view to increase outsourcing. Service officials are utilizing the new core methodology<sup>12</sup> and risk assessment process to review mission-essential workloads and reclassify existing organic core work as noncore for outsourcing. The Air Force has assessed seven workloads to date and determined that the risks from outsourcing were acceptable; that is, adequate DOD capability remains, and available commercial sources can capably do the work. The Air Force plans to assess its entire workload to determine minimum core capabilities and identify outsourcing candidates. The Army and the Navy are also beginning to reassess their current workloads to identify core.

The hydraulics workload at the Air Force's Sacramento Center illustrates the impact the new risk assessment process will have on DOD core capabilities. The Air Force determined that all of this large workload—currently about 420,000 hours per year—was required to support a core capability based on its necessity to support mission aircraft during contingencies. This was a key factor used by the Air Force to support its position that Sacramento should not be closed during the 1995 BRAC process. A recent risk assessment subsequently determined that the entire workload could be outsourced and would no longer be classified as

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<sup>12</sup>The core methodology being used is the one contained in DOD's April 1996 policy report submitted to the Congress.



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core. The Defense Depot Maintenance Council agreed with the Air Force recommendation.

A critical assumption, however, is that current Army and Navy hydraulic workloads must continue to be maintained in military depots in the future to provide the minimum DOD organic core capability requirement. Additionally, there is some question regarding whether the Navy and the Army could support Air Force workloads. If future hydraulic workloads increase or decrease, or if the Army and the Navy desire to outsource their workloads, the retention of minimum core could be jeopardized. In concept, the Council would be the arbitrator and determine whether the additional risk would be acceptable.

DOD is also looking to expand the use of private contractors to assume total contractor logistics support of fielded weapon systems. In what is viewed as a model for other systems, the Air Force plans to reduce the F-117 program office from 226 to 20 employees and greatly expand the prime contractor's role in logistics support of the F-117 fleet, to include materiel management, systems integration, modifications, and subcontractor management, as well as continuing depot repairs and systems engineering responsibilities. The Air Force is also considering contractor-provided, integrated systems management for its specialized C-130 fleet and some strategic missiles, while the Army expects to issue an integrated fleet management contract for the Paladin.

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## Assessments of Where to Outsource New Systems

DOD's revised acquisition policies and privatization plans establish a clear preference for contractor support of new weapon systems and upgrades. Citing in particular the guidance to maximize contractor-provided, total life-cycle logistics support, acquisition program officials from all services are actively planning or strongly considering contractor logistics support of both depot maintenance and materiel management functions, much more so than in the past.

Of the programs we have reviewed thus far, few have made final formal decisions on the source of repair. However, of those systems offices that have decided or are nearing a decision, most are planning to outsource. The decisions on many systems, especially the largest dollar ones, have been delayed and the programs will rely on contractor support for a number of years as options are evaluated. Officials cited several reasons for delaying decisions, including uncertainties about DOD core policies, the status of efforts to lift statutory workload restrictions, and the time needed

to obtain better cost and performance data. Only the Black Hawk will continue organic support like that used for its predecessor models. Officials plan on a fairly even split of the AC-130U gunship workloads to public and private sources but have not yet determined plans for airframe maintenance, the gunship's largest workload. Table 3 summarizes the projected source of repair plans on systems we have reviewed. As indicated, for many programs, including the largest systems in terms of acquisition costs, the final support decisions have not yet been made.

**Table 3: New Systems Tentative Depot Support Plans**

System	Leaning to organic	Undecided/deferred	Leaning to contract
<b>Army</b>			
Apache Longbow			√
Black Hawk	√		
Javelin		√	
JSTARS GSM			√
Paladin			√
<b>Navy</b>			
F/A-18E/F		√	
Seawolf		√	
T406 engine			√
V-22 Osprey		√	
<b>Air Force</b>			
AC-130U gunship		√	
B-1B CMUP			√
C-17		√	
F-117 engine			√
F-22		√	
JASSM			√

At the request of higher headquarters, several programs reconsidered and, in at least one case, reversed earlier decisions to rely on organic support. The Office of the Secretary of Defense tasked the C-17 program office to reevaluate its organic depot support strategy when the fleet size decreased, and the Air Force Chief of Staff directed the F-22 program office to consider privatizing logistics support as a means to cut costs. The F/A-18E/F system office decided to revisit its plans for organic support when the program was restructured as a major acquisition.

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In 1995, the Under Secretary of Defense for Acquisition and Technology reversed organic support plans for the B-2 aircraft. Air Force cost analyses and core assessments showed that a relatively equal mix of public and private support was most cost-effective and would maintain core capabilities for the stealth technologies. Based on a consultant study, the Under Secretary directed that most work be instead outsourced to the manufacturer, citing as reasons, a high level of complexity and the B-2's still maturing design.

Preliminary Observations on  
New Systems Maintenance  
Decisions

Our new systems work is continuing. We have some preliminary observations based on our work to date.

- Guidance on making source-of-repair decisions is still evolving, and program officials are unsure how or whether to address noncost factors, particularly core requirements. Some programs are moving ahead with support plans without establishing a solid, comprehensive business case to justify the decision.
- Cost benefit analyses comparing public and private options often do not indicate a clear cost advantage for either sector. In the past, this would have usually justified selecting an organic depot based on core requirements and the perceived lower risk in using the public depots as a ready and controlled source. Today, the same inconclusive analyses are being used to justify delays in making final decisions.
- Programs delaying final support decisions will rely on interim contractor support and similar arrangements to provide logistics support for 3 to 10 years.
- Past experience on the B-1B and other programs shows that interim contractor support can be an expensive, extended support method and that unreasonable delays in finalizing support decisions can increase costs and degrade readiness.
- DOD policy establishes total contractor logistics support as the preferred model for new systems, but this may not be appropriate for most systems. Air Force managers have found contractor logistics support to be cost-effective for commercially derived systems with established competitive repair sources. These conditions are not often present for military-unique systems and cutting edge technologies. Privatizing total support on new and future weapon systems can also make it difficult for the organic depots to acquire and sustain technical competence on new systems, leading edge technologies, and critical repair processes. This is necessary to maintain future core capabilities and provide a credible competitive repair source.

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- The services and the Defense Logistics Agency are also testing and implementing innovative, alternative contractor-provided support arrangements—including repair warranties, partnering, modernizing through spares, and prime vendor programs—that are expected to decrease organic workloads. We are continuing to evaluate these concepts and impacts on DOD depots.

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## Projections for Achieving Billions by Privatizing Depot Maintenance Are Not Well Supported

Facing large shortfalls in its modernization accounts, DOD plans to reduce costs and generate savings for modernization through the outsourcing of support activities, including depot maintenance. DOD's projected savings level is based on estimates made through studies by the CORM and the DSB. The CORM and DSB studies maintain that through competition in the private sector, depot maintenance costs can be reduced by 20 to 40 percent. While we believe some savings may be achieved from outsourcing some depot maintenance workloads, our work shows that savings estimates of this magnitude are questionable for several key reasons. As already discussed, they assume that existing legislation relating to depot maintenance workload allocation will be repealed. In addition, the highly competitive environment assumed in the studies does not exist in the depot maintenance market place.

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## Savings Assumptions Are Not Based on Depot Maintenance Activities

As the basis for its outsourcing savings assumption, DOD cites data from the CORM's report, Directions for Defense (May 24, 1995), which claimed that 20-percent savings could be achieved through outsourcing. The report rejected the idea of core requirements and recommended that DOD (1) outsource all new support requirements, particularly the depot-level logistics support of new and future weapon systems and (2) establish a time-phased plan to transfer essentially all depot maintenance to the private sector. DOD agreed with the report's recommendation to outsource a significant portion of its depot maintenance work, but believed that it should retain a limited capability to meet essential wartime surge demands, promote competition, and sustain institutional expertise. Based on our prior work in the area of savings from outsourcing, we question whether DOD can achieve the level of savings it is claiming.

We initially questioned the data cited by DOD to support its savings assumptions in April 1996 testimony before this Subcommittee.<sup>13</sup> We stated that the CORM's assumptions on savings were generally based on

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<sup>13</sup>Defense Depot Maintenance: Privatization and the Debate Over the Public-Private Mix (GAO/T-NSIAD-96-146, Apr. 16, 1996).

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reports of projected savings from public-private competitions for various commercial activities as part of the implementation of Office of Management and Budget Circular A-76. In reviewing the A-76 competitions and DOD's public-private competitions for depot maintenance, we found that the conditions under which A-76 competitions resulted in lower private sector prices often were not present or applicable to depot maintenance. The weaknesses in extrapolating the results of these reported savings to depot maintenance included the following:

- The support functions used for the A-76 studies were dissimilar to the depot maintenance function.
- Substantial savings occurred when competition was introduced into the noncompetitive environment; however, the reported savings were based on the difference between precompetition costs and the prices proposed and did not reflect the subsequent cost overruns, modifications, or add-ons.
- Public activities were allowed to compete for workloads and won about half of the competitions by reengineering their operations to provide the work cheaper.
- The A-76 competitions were conducted in a highly competitive private sector market.

Further analysis of the CORM savings assumptions in our July 1996 report showed that projected savings were often not achieved due to cost growth and other factors.<sup>14</sup> We concluded that outsourcing essentially all depot maintenance under current conditions would not likely achieve expected savings and, according to the military services, would result in unacceptable readiness and sustainability risks.

As additional support for outsourcing, DOD cites data from the DSB's November 1996 report, Achieving an Innovative Support Structure for 21st Century Military Superiority. DSB claimed savings up to 40 percent through outsourcing of DOD support activities, including depot maintenance, and recommended that DOD use the private sector for logistics and maintenance in the continental United States. From a preliminary analysis of DSB's report, we determined that the savings projections were based on primarily the same assumptions as those used by the CORM—although DSB's study expanded the functions and activities that it recommended for outsourcing and claimed savings up to 40 percent. Our March 1997

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<sup>14</sup>Defense Depot Maintenance: Commission on Roles and Mission's Privatization Assumptions Are Questionable (GAO/NSIAD-96-161, July 15, 1996).

testimony<sup>15</sup> before the Subcommittee showed that, while we agreed that outsourcing can sometimes provide savings, we questioned whether the magnitude of savings anticipated by DSB is attainable within the current strategy and force structure.

### Many Current Depot Maintenance Contracts Are Sole Source

Our April 1996 testimony and July 1996 CORM report noted that much of the depot work contracted to the private sector was awarded sole source and that obtaining competition for remaining noncore workloads may be difficult and costly.<sup>16</sup> For example, to test for the extent of competition, we sampled 240 contracts, totaling \$4.3 billion, that 12 DOD buying commands had open during 1995. Of these 240 contracts, 182, about 76 percent, were awarded on a sole-source basis—about 45 percent of the total dollar value.

Recently, we asked the DOD buying commands to classify as competitive or sole source all the new contracts awarded from the beginning of fiscal year 1996 to date. As shown in table 4, of the 15,346 contracts totaling \$2.2 billion, 13,930—about 91 percent—were awarded sole source. The sole-source contracts totaled about \$1.5 billion, or about 68 percent of the total dollars awarded.

**Table 4: DOD Depot Maintenance Contracts Awarded From Fiscal Year 1996 to Date**

Dollars in millions

Command	Competitive		Sole source		Total	
	Number	Value	Number	Value	Number	Value
Army	2	\$1	40	\$540	42	\$541
Air Force	1,263	443	1,268	336	2,531	779
Navy	151	253	12,622	638	12,773	891
<b>Total</b>	<b>1,416</b>	<b>\$697</b>	<b>13,930</b>	<b>\$1,514</b>	<b>15,346</b>	<b>\$2,211</b>

Table 5 compares the services’ use of competition for contracts we sampled in 1995 with that used in contracts awarded since the beginning of fiscal year 1996. The Air Force had the greatest percent of competitive contracts in 1995 and 1996. The Army’s use of competition decreased, and the Navy’s use was low for both periods.

<sup>15</sup>Defense Outsourcing: Challenges Facing DOD as It Attempts to Save Billions in Infrastructure Costs (GAO/T-NSIAD-97-110, Mar. 12, 1997).

<sup>16</sup>Defense Depot Maintenance: Privatization and the Debate Over the Public-Private Mix (GAO/NSIAD-96-148, Apr. 17, 1996) and Defense Depot Maintenance: Commission on Roles and Mission’s Privatization Assumptions Are Questionable (GAO/NSIAD-96-161, July 15, 1996).

**Table 5: DOD's Use of Competition for Depot Maintenance Work**

Service	Competitive contracts open in 1995		Competitive contracts awarded from FY 1996 to date	
	Percent of total number	Percent of total value	Percent of total number	Percent of total value
Army	23	53	5	.2
Air Force	39	62	50	57
Navy	8	39	1	28

## Reason Cited for Sole-Source Awards

Our work also showed that, for existing weapon systems, obtaining a competitive market may be costly for DOD because it has not acquired the technical data rights for many of its weapon systems. In examining the reasons for sole-source contracting, we observed that the justification most often cited was that competition was not possible because DOD did not own the technical data rights for the items to be repaired. Command officials told us that DOD would have to make costly investments in order to promote full and open competition for many of its weapon systems. Also, we have found that savings through competition may be adversely affected by private businesses that choose not to bid for maintenance workloads that have (1) small volumes, (2) obsolete technology, (3) irregular requirements, and (4) unstable funding. DOD may be able to encourage more competitive bidding through bundling common work and offering contracts with terms and conditions such as multiple options and multiyear performance periods.

## Conclusion

In conclusion, the inefficient operation of depot maintenance activities results in a reduction in the military services purchasing power through its operations and maintenance funds. DOD faces difficult decisions in outsourcing depot maintenance workloads to create a balanced, cost-effective system. Depot maintenance privatization should be approached carefully, allowing for evaluation of the economic, readiness, and statutory requirements that surround individual workloads. If not effectively managed, the privatization of workloads, including the downsizing of remaining DOD depot infrastructure, could exacerbate existing excess capacity problems and the inefficiencies inherent in underused depot capacity. We believe DOD needs to develop an overall plan for addressing its key management issues, including its proposed management structure for depot maintenance, for review by the Congress and other affected parties.

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# History of the Services' Depot Systems

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The services' maintenance depots have primary responsibility for maintaining, overhauling, and repairing most major systems and system components, including aircraft, helicopters, ships, tanks, artillery, support vehicles, missiles, and ammunition. The maintenance depots are a controlled source of technical capability for repairing and manufacturing mission-essential equipment and components that support peacetime operations or a surge capability in the event of total mobilization or some other national defense contingency. The depots also provide engineering services for the production and development of hardware design changes, and develop and maintain computer software. Furthermore, they furnish technical teams to provide field maintenance of equipment in emergencies, as needed.

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## Army Depots

From the Revolution until World War II, the Army's equipment maintenance needs were mostly contracted out. During the 19th century, in-house maintenance work, consisting mostly of rifle and other gun repair and carriage repair, was done in the Army's arsenals—which also manufactured guns. The number of arsenals tended to rise and fall according to the various wars and other military actions that occurred in the 19th and early 20th centuries.

About the time of World War I, the Army began to acquire larger equipment, such as trucks and tanks, which typically require more maintenance than rifles, guns, and carriages. Still, most maintenance work between World War I and II continued to be contracted out. Finally, during and after World War II, large-scale, in-house equipment maintenance began in earnest when the Army acquired massive quantities of new, modern equipment.

By the 1970s, the Army's depot maintenance work was centralized at a limited number of depots compared to previous years. In 1976, 10 depots performed maintenance work in the continental United States and 2 in Europe. Between 1983 and 1985, Army depot maintenance personnel strengths increased to over 20,000, their highest level ever. At that time, the organic program represented approximately 67 percent of the total Army direct depot maintenance program funding. During the mid-1980s, the Army lost some of its organic depot maintenance workload, staffing, and capacity. By 1988, only eight depots were still performing maintenance work in the United States and only one in Europe. Sierra and New Cumberland depots had stopped maintenance work in the United States and in Europe, the Mainz Depot was closed. However, as its



in-house maintenance capability was declining, the Army increased its reliance on commercial sources, reversing a long trend.

Although the Department of Defense's (DOD) input to the 1995 the base closure and realignment (BRAC) recommended closing the Red River Army Depot and transferring the light combat vehicle maintenance mission to Anniston Army Depot, the BRAC Commission disagreed. The Commission found that while Anniston had the capacity to accept ground combat vehicle depot maintenance workload from Red River, closing Red River would place too much risk on readiness. It recommended realigning Red River Army Depot by moving all maintenance missions, except for those related to the Bradley fighting vehicle series, to other depot maintenance activities, including the private sector.

In addition, the 1995 BRAC Commission agreed with the Secretary of Defense's recommendation to realign depot-level maintenance at the Letterkenny depot to other depots or the private sector. It recommended the (1) transfer of towed and self-propelled combat vehicle maintenance workloads to the Anniston depot and missile guidance system maintenance workload to the Tobyhanna depot or the private sector and (2) retention of an enclave for conventional ammunition storage and tactical missile disassembly and storage at Letterkenny.

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## Navy Shipyards

In 1799, the Congress authorized five naval shipyards to be located at Portsmouth, New Hampshire; Boston, Massachusetts; New York, New York; Philadelphia, Pennsylvania; and Norfolk, Virginia. The Mare Island and Puget Sound shipyards were authorized in 1852 and 1891, respectively. The last four naval shipyards were authorized in this century: Charleston, in 1901; Pearl Harbor, in 1908; San Francisco (Hunters Point), in 1919; and Long Beach, in 1940.

From the earliest years through World War I, naval shipyards were the principal logistics support element in the Navy's shore establishment. In addition to building and repairing ships, naval shipyards provided many support activities, such as supply support, medical and dental care, and training facilities. During the period between the World Wars, additional shore facilities were established to support the fleet and provide a wide range of support services. Naval shipyards were thus able to focus on their industrial mission of building, maintaining, and modernizing Navy ships. Employment peaked at over 380,000 personnel during World War II.

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In 1968, naval shipyards stopped building ships in order to concentrate on repairing an increasingly complex fleet. This enabled the private sector to focus more on new construction. From the mid-1960s to the mid-1970s, the Navy closed three nonnuclear shipyards—New York, Boston, and Hunters Point—leaving six nuclear capable and two nonnuclear naval shipyards. These closure decisions were made after careful studies indicated that there was excess capacity for the foreseeable peacetime and mobilization workloads.

During the post-Vietnam years, naval shipyards' employment peaked at 80,000 in 1983. Since then, naval shipyard employment levels have declined due to improved ship design techniques, reduced force levels, changes in maintenance philosophy, and austere budgets. As a result, the Philadelphia Naval Shipyard was selected for closure by the 1991 BRAC Commission and the Mare Island and Charleston naval shipyards were selected for closure by the 1993 BRAC Commission. All three shipyards were closed in 1996.

The 1995 BRAC Commission recommended closing the Long Beach Naval Shipyard, and retaining the sonar dome government-owned, contractor-operated facility and family housing units needed to fulfill Navy requirements. The shipyard ceased operations in July 1996 and will close in September 1997. The employment level of the remaining four naval shipyards is projected at 22,771 by the end of fiscal year 1997.

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## Navy Aviation Depots

The first naval aviation maintenance depot was established in 1917 at Norfolk, Virginia, and was named the Construction and Repair Department. In 1923, this unit and two others formed by then—one at North Island and one at Pensacola—were redesignated as Assembly and Repair Departments. In 1948, their names were changed to Overhaul and Repair Departments. Prior to 1967, the aviation depots were under the cognizance of their respective air stations. The status of Overhaul and Repair Departments at the six Navy and one Marine Corps Air Stations was changed in 1967 to that of separate commands, each called a Naval Air Rework Facility and directed to report to the Commander of the Naval Air Systems Command instead of the air station commanding officer. In 1987, the name Naval Aviation Depot replaced the name Naval Air Rework Facility to more accurately reflect the range of its activities.

In 1973, the Naval Air Rework Facility, Quonset Point, Rhode Island, was closed under the Navy Shore Establishment Realignment Program. This

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was the first naval aviation depot to close in recent history. The 1993 BRAC Commission called for closing three more naval aviation depots—those located in Norfolk, Virginia; Pensacola, Florida; and Alameda, California. The depots remaining open are located at the Marine Corps Air Station at Cherry Point, North Carolina; the Naval Air Station at North Island, San Diego, California; and the Naval Air Station at Jacksonville, Florida.

The naval aviation depots went from a high of 35,690 employees in 1967 to 14,797 employees in 1995. Further planned reductions from closures and downsizing are projected to reduce the number of employees to 10,543 by 1999. DOD did not recommend additional aviation depot closures as a result of the 1995 BRAC process.

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## Marine Corps Depots

The two Marine Corps maintenance depots are now called multicommodity maintenance centers. The oldest, in Albany, Georgia, was established as the Repair Branch of the Marine Corps Supply Center in 1954. The other, located in Barstow, California, was established in 1961 as the Yermo Complex. The facilities have grown over the years as a result of additional mission responsibilities and the expansion of their industrial production capabilities. Today, each facility has just under 1,000 civilian employees and 10 military personnel. Each generally supports the same systems and commodities, except that Albany also supports the Marine Corps Maritime Prepositioning Forces Program. Both Albany and Barstow perform a combination of intermediate and depot maintenance activities.

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## Air Force Depots

From 1918 to 1939, the Army Air Corps, from which the Air Force was created after World War II, operated four air depots. With the threat of global conflict in 1939, two additional depots were constructed. During World War II, the number of depots increased to 12. After the war, three depots were deactivated. In the early 1950s, during the Korean Conflict, the Air Force invested \$1.8 billion to upgrade the remaining nine depots, which became part of the Air Materiel Command. A 10th depot was activated in 1961 to house laboratories and management activities for the Air Force's metrology and calibration program and depot repair of inertial navigation systems for intercontinental missile systems and aircraft. The Air Force entered the 1960s with over 145,000 personnel at 10 logistics centers, including 62,000 depot maintenance personnel. In 1963 and 1964, 4 of the 10 depots were closed. The remaining six became the base of the Air Force Logistics Command in support of the Vietnam Conflict. Five of the six were located on multifunction logistics bases called air materiel

areas, which were responsible for both wholesale supply and depot maintenance activities for Air Force weapon systems and equipment. By the end of the 1960s, the Air Force Logistics Command had been reduced to 112,000 employees, including 50,000 depot maintenance personnel.

During the 1970s, the Air Force consolidated individual repair activities at its 6 depots, reducing the number from 52 to 20. This realignment eliminated duplicate repair sources for many commodity items. During the early 1980s, Air Force logistics operations grew as U.S. military forces were increased. The Air Force undertook a major capitalization improvement program to modernize the depot industrial base with modern plant equipment and technological advancements. The Air Force Logistics Command employed 40,800 depot maintenance personnel in 1986. In the 1990s, downsizing, consolidations, and cuts were made to the Air Force depot system, and the Air Force Logistics Command merged with the Air Force Systems Command to form the Air Force Materiel Command. Depot maintenance manning was reduced by 17 percent between 1990 and 1991. In 1995, the Air Force Materiel Command had 29,004 depot maintenance personnel.

The type of depot maintenance work done at each of the Air Force depots includes the following: (1) Ogden Air Logistics Center— strategic missiles, aircraft, air munitions, photo/reconnaissance, and landing gear; (2) Oklahoma City Air Logistics Center— aircraft, engines, and oxygen equipment; (3) Sacramento Air Logistics Center— space/ground communications-electronics, aircraft, hydraulics, and instruments; (4) San Antonio Air Logistics Center— aircraft, engines, nuclear equipment; and (5) Warner Robins Air Logistics Center— aircraft, avionics, propellers, and life support systems.

The 1993 BRAC Commission recommended closing the Aerospace Guidance and Metrology Center, Newark, Ohio, which has been privatized-in-place. This privatized facility, which is currently known as the Boeing Guidance Repair Center (BGRC), does repairs, overhauls, and upgrades for inertial guidance and navigation systems and components and displacement gyroscopes for intercontinental missiles and most Air Force aircraft. It also houses the management of the Air Force's metrology and calibration program. Although DOD did not recommend any additional depots for closure in 1995, the BRAC Commission recommended closing the San Antonio and Sacramento Air Logistics Centers, which the Air Force also plans to privatize-in-place using competitive procedures that include a military depot. The Air Force also has one depot-level activity in Colorado

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Springs, Colorado, which maintains the software on Air Force space systems. This activity is not funded using depot maintenance funds and is not officially categorized as a depot. It is staffed with a combination of government and contractor personnel.

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## Other Depot Facilities

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### Naval Weapons Stations

The five existing naval weapons stations are descendants of the naval ammunition depots of World War II. However, these depots are no longer the major providers and maintainers of naval ordnance that they were in the past. In the 1970s, the Army, under the single manager concept, was assigned responsibility for producing and maintaining most of the Navy's high-volume conventional munitions and missiles. The naval weapons stations now maintain only small volume, miscellaneous items.

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### Naval Surface Warfare Center

The Naval Surface Warfare Center, Crane Division, supports the development, production, evaluation, and maintenance of electronic and mechanical products integral to combat weapon systems. The Crane Division employs about 470 depot maintenance personnel as of fiscal year 1997. Commissioned in 1941 as a naval ammunition depot, Crane was one of four inland activities constructed to load, store, and issue ammunition to the fleet. Today, the Center serves as a modern sophisticated leader in diverse and highly technical product lines such as microwave devices, acoustic sensors, and microelectronic technology.

The Louisville, Kentucky, site of the Crane Division was commissioned by the Navy in 1941 to produce ordnance material and munitions for World War II. Louisville employed 4,480 personnel at its peak during World War II. The 1995 BRAC Commission urged the Navy to allow privatization of the facility, which occurred in August 1996. At the time of the BRAC recommendation, the depot employed 1,600 civilian personnel. It provides overhaul and engineering support for naval gun and missile launching systems, and produces small weapon system parts using flexible computer-integrated manufacturing technologies and methods.

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### Naval Undersea Warfare Center

The Navy's undersea warfare munitions capability was originally established in 1914. In recent years, depot maintenance for undersea

warfare systems has been consolidated at the Naval Undersea Warfare Center, Keyport, Washington. The consolidation was done to recognize the inherent efficiencies of having a single national depot maintenance center for the Navy's family of torpedoes. Among the Center's assigned duties, is the maintenance and repair of undersea weapons and systems, underwater targets, and countermeasure devices.

Since the end of the Cold War, workload at the Center has followed a downward trend. Direct workload has declined from a peak of 821 work years in the late 1980s to 417 work years in fiscal year 1997, representing a 51-percent decline.

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# Abstracts From Related GAO Products

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## High-Risk Series: Defense Infrastructure (GAO/HR-97-7, Feb. 1997)

This report addresses the difficult process of reducing DOD's infrastructure. It focuses on the need for infrastructure reductions and obstacles that have hindered DOD's ability to achieve significant cost savings in this area. It describes DOD's future years funding plan for infrastructure and discusses areas in which we have identified opportunities for reductions. It also discusses the need for DOD to give greater structure to its reduction efforts by developing a strategic plan and involving the Congress.

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## Air Force Depot Maintenance: Privatization-in-Place Plans Are Costly While Excess Capacity Exists (GAO/NSIAD-97-13, Dec. 31, 1996)

Deciding the future of DOD's depot system is difficult. Depot maintenance privatization should be approached carefully, allowing for evaluation of the economic, readiness, and statutory requirements that surround individual workloads. Privatizing workloads in place at two closing Air Force depots does not reduce the excess capacity in the remaining depots or the private sector and consequently is not a cost-effective approach to reducing depot infrastructure. Private industry representatives generally agree with this statement.

Although the Air Force's privatization initiative for the Sacramento and San Antonio depots has not progressed far enough for us to estimate precise costs and savings, consolidating depot maintenance workloads at remaining underused depots could result in a net savings in 2 years or less. Transferring the workloads to other depots could yield additional economy and efficiency savings of over \$200 million annually, in addition to the \$268 million annual savings the BRAC Commission estimated. Moreover, if the workload consolidation does not occur, the remaining Air Force depots are likely to become more inefficient and more costly. Plans to delay many closure-related actions until 2001 will substantially reduce future savings envisioned by the BRAC Commission.

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## Navy Depot Maintenance: Cost and Savings Issues Related to Privatizing-in-Place at the Louisville, Kentucky, Depot (GAO/NSIAD-96-202, Sept. 18, 1996)

We found that the Navy's plan for privatizing the workloads in place at the Louisville depot will not reduce excess capacity in the remaining public depots or the private sector, may prove more costly than transferring the work to other depots, and does not appear to be consistent with an existing requirement for public-private competitions. The Navy's preliminary cost analysis that privatization-in-place is cost-effective is based on limited cost data that overstates the cost of relocating the workloads by at least \$66 million and on the general assumption that privatizing workloads will save 20 percent. The projection was based on conditions that are not relevant for most of the depot maintenance

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workloads and does not reflect the cost of excess capacity in the public sector. The goal of reaching 20 percent savings is not likely to be reached. Furthermore, we were unable to find any element of the Navy's plan for privatization of the Louisville depot that addresses 10 U.S.C. 2469, which requires competition between the public and private sectors before privatizing DOD workloads valued at not less than \$3 million.

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**Army Depot Maintenance: Privatization Without Further Downsizing Increases Costly Excess Capacity**  
(GAO/NSIAD-96-201, Sept. 18, 1996)

If not effectively managed, the privatization of depot maintenance activities, could exacerbate existing capacity problems and the inefficiencies inherent in underuse of depot maintenance capacity. Tentative plans to transfer some workloads from realigned depots to remaining depots should improve capacity use and lower operating costs to some extent, but they will not resolve the Army's extensive excess depot capacity problems. Since the Army is not effectively downsizing its remaining depot maintenance infrastructure, privatization initiatives outlined in DOD's March 1996 workload analysis report to Congress will increase excess capacity in Army depots and increase Army depot maintenance costs. Privatizing workloads in place will also aggravate excess capacity conditions in the private sector.

In the absence of further downsizing, the Army can significantly reduce depot maintenance costs by transferring, rather than privatizing-in-place, workloads from closing and downsizing depots.

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**Defense Depot Maintenance: Commission on Roles and Mission's Privatization Assumptions Are Questionable**  
(GAO/NSIAD-96-161, July 15, 1996)

Pursuant to a congressional request, we examined the Commission on Roles and Missions (CORM) privatization assumptions to determine whether privatization would adversely affect military readiness and sustainability.

The CORM's depot privatization savings and readiness assumptions are based on conditions that do not currently exist for many depot workloads. Privatizing essentially all depot maintenance under current conditions would not likely achieve expected savings and, according to the military services, would result in unacceptable readiness and sustainability risks. The extent to which DOD's long-term privatization plans and market forces will effectively create more favorable conditions for outsourcing is uncertain.

The CORM assumed a highly competitive and capable private market exists or would develop for most depot workloads. However, we found that most



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of the depot workloads contracted to the private sector are awarded non-competitively. Further, the CORM's privatization savings do not reflect the cost impact of excess capacity in the public depots. The CORM's privatization assumptions are based primarily on reported savings from public-private competitions for commercial activities. These activities were generally dissimilar to depot maintenance activities because they involved relatively simple, routine, and repetitive tasks that did not generally require large capital investments or highly skilled and trained personnel. The CORM report stated that the services' organic depot maintenance requirements exceed the real needs of the national military strategy and that private contractors could provide essentially all of the depot maintenance services. The CORM assumed that public-private competitions would be used only in the absence of private sector competition and would be limited to only a few cases. We found that public-private competitions have resulted in savings and benefits and can provide a cost-effective way of making depot workload allocation decisions for certain workloads.

Our analysis of depot maintenance workloads currently contracted to the private sector shows, for the most part, that contractors were responsive to their requirements for delivery and performance. Historically, the services have determined that the risks of privatizing most workloads are too high and have retained them in the public depots. We found that DOD's risk assessment methodology does not include guidance or criteria for the services to use in making such assessments and involves subjective judgments. The services are reassessing their previously designated core workloads with a view toward privatization.

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Defense Depot  
Maintenance: More  
Comprehensive and  
Consistent Workload Data  
Needed for  
Decisionmakers  
(GAO/NSIAD-96-166,  
May 21, 1996)

Our analysis of DOD's workload report shows that the use of more comprehensive and consistent data would provide Congress and DOD decisionmakers a more accurate picture of historical and future projections of depot maintenance workload allocations between the public and private sectors. Without such data, the reports are of limited use to Congress and defense decisionmaker when considering public and private sector workload allocation policy. Although DOD's workload report primarily justifies eliminating the 60-40 rule, our work shows that, with few exceptions, the rule has not affected past public-private workload allocation decisions. However, if not repealed, the 60-40 rule would restrict DOD's plans for large-scale privatization.

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The workload report's projections of public-private depot workloads for fiscal years 1997-2001 are not consistent and comparable to historical data. The future data does not include certain types of private sector depot maintenance costs, including interim contractor support and contractor logistics support. We include a matter for congressional consideration for improving the methodology and process DOD uses to collect, analyze, and report depot maintenance workload data for the public and private sectors.

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Defense Depot Maintenance: DOD's Policy Report Leaves Future Role of Depot System Uncertain (GAO/NSIAD-96-165, May 21, 1996)

The DOD policy report calls for a greater reliance on private sector maintenance capabilities than the current projection. The policy provides wide latitude regarding how certain policies and concepts will be implemented. For example, each service is implementing differently the policy's new process for risk assessments to determine which mission-essential maintenance requirements should be privatized. Thus, it may be impossible to estimate the future depot maintenance workload mix. The DOD policy also shows a preference for maintaining new systems in the private sector. However, it is unclear that this is the most cost-effective long-term approach for military-unique defense systems. In addition, the policy excludes DOD depots from competing for non-core work except when private sector competition is inadequate. This is inconsistent with congressional direction for competition between public-private entities.

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Defense Depot Maintenance: Privatization and the Debate Over the Public-Private Mix (GAO/T-NSIAD-96-146, Apr. 16, 1996, and GAO/T-NSIAD-96-148, Apr. 17, 1996)

Responding to a congressional request, we testified on the privatization of defense depot maintenance activities. We noted that (1) DOD's evolving depot maintenance policy includes a public-private mix and shifts work to the private sector where feasible; (2) depot privatization could worsen excess maintenance capacity and inefficiencies if not carefully managed; (3) the DOD policy report provides an overall framework for managing depot maintenance activities and substantial implementation flexibility, but the policy is not consistent with congressional guidance on public-private competition for noncore workloads; (4) privatizing depot maintenance is not likely to achieve the 20-percent savings DOD projects, since most savings have come from competition rather than privatization; (5) about half of depot maintenance private-public competitions have been won by the public sector; and (6) DOD plans to privatize-in-place and delay downsizing and closure of two Air Logistics Centers will probably cost more than closing them and relocating their workloads to underutilized defense or private facilities.

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**Military Bases: Closure and Realignment Savings Are Significant, but Not Easily Quantified**

(GAO/NSIAD-96-67, Apr. 8, 1996)

Our analysis of base support costs in the future year defense plan and at nine closing installations indicates that BRAC savings should be substantial. However, DOD's systems do not provide information on actual BRAC savings. Therefore, the total amount of actual savings is uncertain. If DOD does not fully achieve estimated BRAC savings, DOD's ability to fund future programs at planned levels will be affected. DOD has complied with the legislative requirement for submitting annual cost and savings estimates, but there are limitations to the submissions' usefulness. Consequently, the Congress does not have an accurate picture of the savings achieved by the BRAC process.

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**Depot Maintenance: Opportunities to Privatize Repair of Military Engines**

(GAO/NSIAD-96-33, Mar. 5, 1996)

The rationale and requirement for maintaining some capability in the public depot system derive both from statutory requirements and from the recognition that some public depot capability is needed to mitigate cost and readiness risks where private sector capabilities are limited or inadequate. Private sector capabilities generally make commercial counterpart engines ideal candidates for privatization. However, DOD has about 45 percent excess capacity for engine depot maintenance. Additional privatizations of commercial counterpart engines at a time of decreasing depot workload—without first decreasing the excess capacity in DOD's depots—would increase the per-unit repair cost of work remaining in DOD's depot system.

It is not yet known how DOD plans to implement its privatization initiatives or how it will address statutory provisions such as 10 U.S.C. 2469—which require competitions that include public depots before privatizing depot maintenance workload valued at \$3 million or more.

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**Closing Maintenance Depots: Savings, Workload, and Redistribution Issues**

(GAO/NSIAD-96-29, Mar. 4, 1996)

DOD has substantially reduced its initial estimates of net savings resulting from depot closures during the 6-year implementation period allowed by law and, to a lesser extent, of the annual savings after the implementation period has been completed. Although DOD believes its new estimates are more accurate, they still do not accurately reflect potential savings because (1) some closure-related costs are not included and (2) some estimates have not been updated to reflect major changes in such areas as the expected cost of doing work after it is transferred to new sources of repair. As a result, the magnitude of the savings is uncertain.

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DOD is offering displaced employees a comprehensive and costly outplacement program that provides assistance, benefits, and separation incentives, thus limiting the number of employees involuntarily separated.

Military services can increase savings by (1) conducting public-public and public-private competitions for the work or (2) analyzing the cost-effectiveness of moving the work to other service depots. In addition, they can improve operations through reengineering. However, DOD has not taken action to maximize these savings. Instead, the services have (1) discontinued public-public and public-private competition programs in May 1994, (2) implemented a privatization-in-place plan that will likely increase maintenance costs, (3) rarely considered interservicing alternatives, and (4) not required the depots to reengineer transferred workloads.

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Navy Maintenance:  
Assessment of the  
Public-Private Competition  
Program for Aviation  
Maintenance  
(GAO/NSIAD-96-30, Jan. 22,  
1996)

Navy public-private competitions generally resulted in savings and benefits, although precise quantification of such savings is not possible. Due to the time and cost of performing such competitions, a rapidly declining depot maintenance workload, and a private sector concern about fairness, much less maintenance work was subjected to public-private competition than had been projected. The issue of fairness centers on private sector concerns that military depot prices have not reflected the total cost to the government of performing this work, including the labor and material to be applied to competition work as well as an appropriate share of overhead.

Congressional direction to reinstitute public-private competitions together with recommendations by the Commission on Roles and Missions to privatize most depot maintenance work has resulted in DOD's reexamining its depot workload with a view toward moving more work to the private sector. While DOD maintains it has reinstituted its public-private competition program, in practice no competitions have been held since DOD terminated the program in 1994. A number of factors may limit or impede a major competition program in the current environment. They include (1) the cost and difficulties of such competitions and (2) the amount of work available for competition under current law and policies limiting the mix of public and private depot maintenance work. Initiatives, such as improving cost accounting systems for depot work, can be taken to improve public-private competitions to ensure their future usefulness in identifying the most cost-effective source of repair for depot maintenance workloads.

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Depot Maintenance: the Navy's Decision to Stop F/A-18 Repairs at Ogden Air Logistics Center  
(GAO/NSIAD-96-31, Dec. 15, 1995)

Comparing F/A-18 Modification, Corrosion, and Paint Program cost and performance at the North Island and Ogden depots was complicated because a number of data judgments and adjustments were required. The Navy's analysis did not always use the most current and complete information available and did not make adjustments for all known differences in work completed at each depot. Our analysis, using more current and complete information, showed that Ogden's costs were slightly lower. Nevertheless, given DOD's decision to retain F/A-18 repair capability at the Navy's North Island facility, it appears consolidation of the workload at that location is the most cost-effective approach. There is no clear statutory or DOD guidance that defines the steps, processes, analyses, and validation procedures required for a merit-based selection process. Such guidance is needed if DOD intends to base future depot maintenance workload allocation decisions on merit-based analyses.

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Depot Maintenance: Issues in Allocating Workload Between the Public and Private Sectors  
(GAO/T-NSIAD-94-161, Apr. 12, 1994)

The DOD annually spends about \$15 billion for depot maintenance, modifications, and upgrades to support aircraft, combat vehicles, wheeled vehicles, ships, and other equipment. DOD is downsizing and must consider how to cost-effectively acquire needed depot maintenance activities while supporting industrial base needs in both the public and private sectors. We discussed (1) the share of DOD's depot maintenance program spent in the public and private sectors; (2) the use of public-private competition as a tool for allocating the depot maintenance workload; (3) observations on the Defense Science Board Depot Maintenance Task Force findings and recommendations; and (4) DOD's transfer of employees, workload, equipment, and facilities at closing maintenance depots.

We have concerns about the implementation of the public-private competition, and the amount of savings is hard to quantify. Nevertheless, we believe that the depot maintenance costs can be cut. We support many of the task force's findings and recommendations but disagree on some issues. For example, we agree that a rational maintenance core policy needs to be identified but believe that this should be done throughout DOD rather than on a service-specific basis. None of the maintenance depots targeted for closure have shut down yet. DOD appears to have an effective program to help employees find new jobs, although some workers may have to settle for lower-paying positions. Concerns have also been raised about other aspects of the depot closures.

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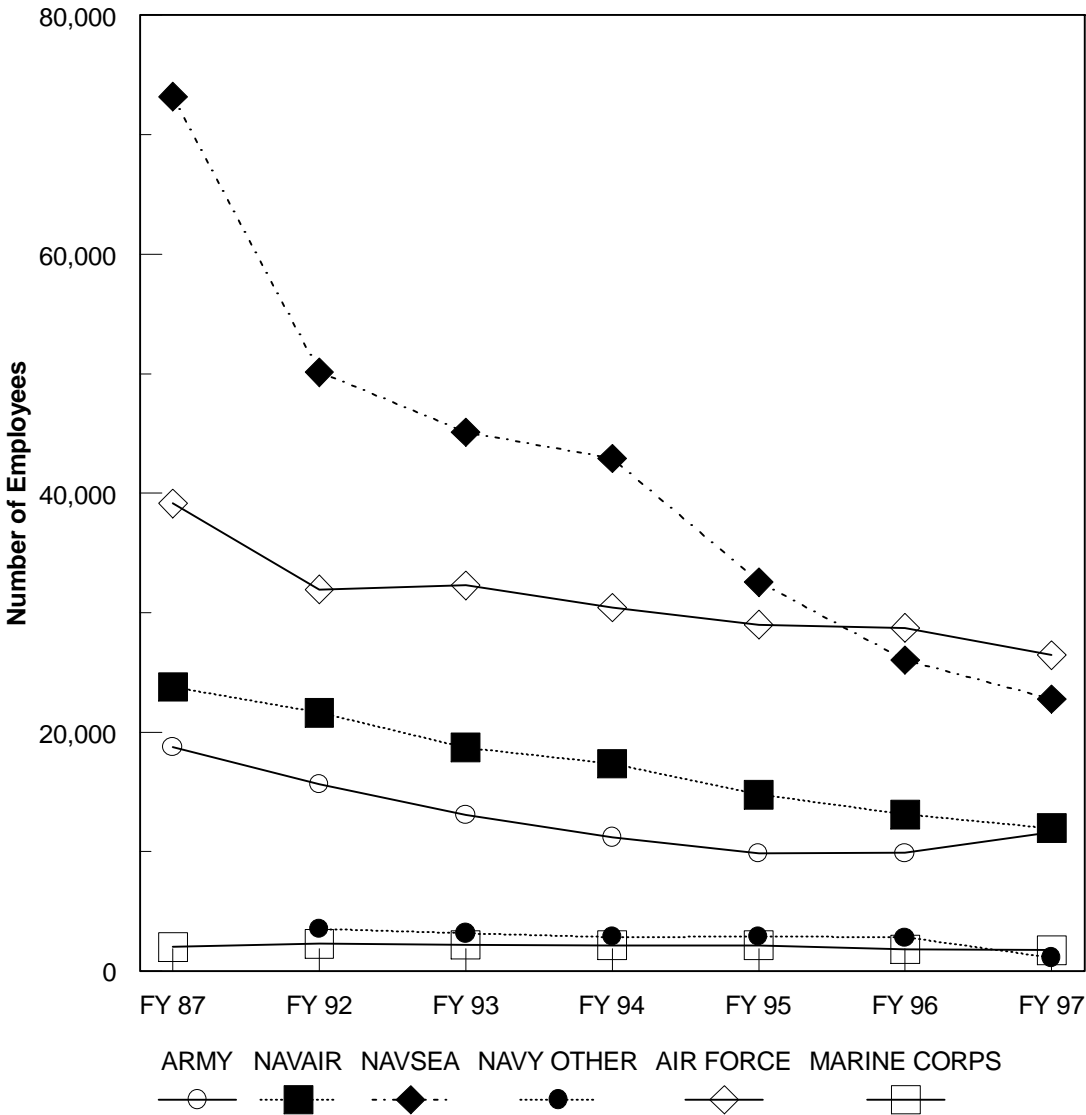
Depot Maintenance: Issues  
in Management and  
Restructuring to Support a  
Downsized Military  
(GAO/T-NSIAD-93-13,  
May 6, 1993)

We were asked to determine (1) the extent to which the current DOD depot maintenance system has excess capacity, (2) the basis for current DOD allocations of depot work between the public and private sectors, (3) whether the private sector's role in the performance of depot maintenance activities is changing, (4) the status of the public-private competition initiative, and (5) the action needed to ensure that future defense maintenance requirements can be managed more cost-effectively.

We testified that substantial excess capacity exists within DOD's depot maintenance system. Conservative estimates put excess capacity at 25 to 50 percent. Because depot maintenance costs are significantly influenced by overhead, elimination of this excess capacity will be critical to reducing future depot maintenance costs. DOD needs to closely review its capital equipment acquisitions before acquiring new or replacement capability for workload that may be allocated to the private sector. Cost-effective future management of the defense depot maintenance system is first dependent on determining what workload capability must be retained within DOD—commonly referred to as core requirements—and what can or should be contracted out to the private sector. In addition, the services have not defined their minimum essential core requirements.

In the past, the private sector's role in depot maintenance remained relatively consistent at about 33 percent of the annual depot maintenance budget and is aggressively seeking additional workload. However, DOD does not have a comprehensive strategy for determining what depot maintenance work should be done by the private sector. Public-private competitions have been implemented to varying degrees among the services. The current DOD depot management structure does not appear to be conducive to making interservice decisions that are essential to developing a more effective and efficient depot maintenance system.

# DOD Depot Employment Levels by Service



# Capacity and Workload Forecasts for Remaining Depots for Fiscal Year 1999

Direct labor hours in thousands

Depot	Maximum potential capacity	Available capacity	Workload	Maximum capacity excess	Available capacity excess	Percentage excess of maximum capacity	Percentage excess of available capacity
<b>Naval aviation</b>							
Cherry Point	5,735	3,797	3,620	2,115	177	37	5
Jacksonville	7,158	5,572	5,355	1,803	217	25	4
North Island	7,772	4,318	4,027	3,745	291	48	7
<b>Subtotal</b>	<b>20,665</b>	<b>13,687</b>	<b>13,002</b>	<b>7,663</b>	<b>685</b>	<b>37</b>	<b>5</b>
<b>Naval shipyard</b>							
Norfolk	15,851	12,000	8,723	7,128	3,277	45	27
Pearl Harbor	8,032	5,320	3,739	4,293	1,581	53	30
Portsmouth	7,996	7,028	3,209	4,787	3,819	60	54
Puget Sound	14,919	14,000	11,717	3,202	2,283	21	16
<b>Subtotal</b>	<b>46,798</b>	<b>38,348</b>	<b>27,388</b>	<b>19,410</b>	<b>10,960</b>	<b>41</b>	<b>29</b>
<b>Other Navy</b>							
Albany	1,883	1,215	1,089	794	126	42	10
Barstow	1,563	1,037	928	635	109	41	11
Crane	2,451	974	583	1,868	391	76	40
Keyport NUWC	1,141	672	555	586	117	51	17
<b>Subtotal</b>	<b>7,038</b>	<b>3,898</b>	<b>3,155</b>	<b>3,883</b>	<b>743</b>	<b>55</b>	<b>19</b>
<b>Air Force</b>							
Oklahoma City	12,863	7,881	7,624	5,239	257	41	3
Ogden	9,005	8,371	4,596	4,409	3,775	49	45
San Antonio	15,220	1,575	1,606	13,614	(31)	89	-2
Sacramento	10,291	1,724	989	9,302	735	90	43
Warner Robins	9,913	7,605	5,508	4,405	2,097	44	28
<b>Subtotal</b>	<b>57,291</b>	<b>27,156</b>	<b>20,323</b>	<b>36,968</b>	<b>6,833</b>	<b>65</b>	<b>25</b>
<b>Army</b>							
Anniston	4,512	3,192	2,614	1,898	578	42	18
Corpus Christi	4,714	4,009	3,338	1,376	671	29	17
Letterkenny	3,707	213	164	3,543	49	96	23
Red River	4,684	1,534	898	3,786	636	81	41
Tobyhanna	7,606	5,091	2,736	4,870	2,355	64	46
<b>Subtotal</b>	<b>25,223</b>	<b>14,040</b>	<b>9,750</b>	<b>15,473</b>	<b>4,290</b>	<b>61</b>	<b>31</b>
<b>Total</b>	<b>157,016</b>	<b>97,129</b>	<b>73,618</b>	<b>83,398</b>	<b>23,511</b>	<b>53</b>	<b>24</b>



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